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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/782,949	02/23/2004	Soichi Sugino	042109	7551
38834	7590	11/16/2004	EXAMINER	
WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP 1250 CONNECTICUT AVENUE, NW SUITE 700 WASHINGTON, DC 20036			CASTRO, ARNOLD	
			ART UNIT	PAPER NUMBER
			3747	

DATE MAILED: 11/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/782,949

Applicant(s)

SUGINO ET AL.

Examiner

Arnold Castro

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 9 is/are rejected.
- 7) ☒ Claim(s) 5-8, 10 and 11 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>20040223</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on February 23, 2004 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner. However, Examiner would like to note that the Abstract of cited reference did not appear to correspond with the discussion of said reference in specification.

Specification

2. The abstract of the disclosure is objected to because the abstract consists of 266 words. The abstract in an application filed under 35 U.S.C. 111 may not exceed 150 words in length. The purpose of the abstract is to enable the United States Patent and Trademark Office and the public generally to determine quickly from a cursory inspection the nature and gist of the technical disclosure. Correction is required. See MPEP § 608.01(b).

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1-4, and 9 are rejected under 35 U.S.C. 102(b) as being anticipated by Man et al. (US 2002/0117860 A1)

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5. Man discloses in figure 1B, an automotive internal combustion engine (ICE) control system that transmits an output of a starting motor through an endless transmission belt to an input/output pulley mounted on an output shaft of an internal combustion engine in starting the internal combustion engine, transmits an output of the ICE through the endless transmission belt to auxiliary machinery while the ICE is in operation, and transmits an output of the starting motor through the endless transmission belt to the auxiliary machinery while the ICE is at an intentional standstill (see para. 0008); wherein said starting motor has a power generating function; and said automotive ICE control system includes a speed-change mechanism which transmits rotation of the starting motor to the ICE at a high first gear ratio in starting the ICE and which transmits rotation of the ICE to the starting motor at a low second gear ratio to operate the starting motor as a power generator while the ICE is in operation, said speed-change mechanism being built within the input/output pulley of the ICE.

Man discloses the speed-change mechanism as shown in FIG. 5 illustrates an embodiment of a rotary transfer device 409 in accordance with the invention. The rotary transfer device 409 is mounted on the driving shaft 403 by means of a support flange 438, attached by a screw 403a that is accessible through a round opening 413c in the sun gear 413. The housing 415 is centered on the engine housing 402 by means of a flange part 437 of L-shaped cross-section that is rigidly attached to the engine housing through a set of screws 402a distributed along a circle. The axial leg 437a of the L-shaped flange part 437 is inserted into a matching recess of the housing 415 and rotationally locked to the latter through splines 437b. The housing 415 consists of the

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housing portions 415a, 415b, 415c that are welded together, but it can also be formed integrally like the other components through appropriate shaping techniques. Enclosed by the housing 415 is a chamber 445 containing the damper device 439, the shock absorber 440, as well as the planetary gear mechanism 409a with its sun gear 413, planet gears 414 and the axially movable and rotatable ring gear 416.

A roller bearing 419 is arranged on the outer circumference of the flange part 415a, seated against a radially projecting shoulder 415d of the flange part 415a. The roller bearing is seated without axial play against an elongated leg of a U-profiled ring 419a that is open towards the roller bearing 419 and is axially secured by a retaining ring 419b. The roller bearing 419 rotatably supports the belt-pulley cage 442 on the housing 415. The belt-pulley cage 442 is shaped to follow the contour of the housing 415 with a minimal gap 441. It consists of the L-shaped flange 442a, belt-pulley 421, connector ring 443 and disc part 444, and it is axially secured on the roller bearing 419 by a radially inward-projecting nose 442b of the axial portion of the flange 442a and by the retainer ring 419c. At the outer circumference of its radial portion, the L-shaped flange 442a carries the belt pulley 421, which is ring-shaped and welded to the L-shaped flange. The other side of the ring-shaped belt pulley 421 is welded to the axially adjacent connector ring 443, to which the disc part 444 is connected by means of screw 444a. The disc part 444 has at its inner circumference a reinforced rim 444b protruding axially in both directions. The reinforced rim 444b has threaded holes distributed over its circumference, where an outward-projecting flange 413a of the sun gear 413 is

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attached by means of screws 413b, whereby a sealed and rotationally fixed connection is established between the sun gear 413 and the disc part 444.

The planet carrier 417 of the planetary gear mechanism 409a holds the planet gears 414 by means of the axles 418 and the interposed bearings 414a, 414b. An axial projection 438a of the support flange 438, which is attached to the driving shaft 403, rotatably supports the planet carrier 418 by means of a roller bearing 436 that is axially secured by the radially projecting shoulder 438b and the retainer ring 436a. The planet carrier 417 has at its outer circumference a form-fitting connection to the damper device 439 by way of the gear profile 446.

Based on its functional principle, the dual-ratio transfer device 409 provides an rpm reduction from the electro-mechanical energy converter to the engine, e.g., when working in the starter mode. With the geometry according to the illustrated embodiment, the reduction ratio is 1:5. The torque-flow path leads from the belt-pulley 421 through the disc part 444 to the sun gear 413. Through the helical gear profile 413e, the sun gear 413 drives the (preferably three) planet gears 414. The planet carrier 417 is opposed by the driving shaft through the damper device 439, so that the ring gear 416, because of its helical gear profile 416a, is pushed axially to move away from the driving shaft 403, so that a form-locking engagement is established between the prongs 416b and 415d on the ring gear 416 and housing 415, respectively. The helical pitch of the gear profile 416a is selected so that the ring gear 416 is pushed in the aforementioned axial direction already at a torque that is smaller than the opposing torque of the driving shaft 403, against the three-part slide bearing 449 with the radially

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acting annular spring 449a, which is provided to direct the frictional torque load acting between the axial flange part 417a of the planet carrier 417 and the ring gear 416. See paragraphs [0098]-[0106]

Allowable Subject Matter

6. Claims 5-8, 10, and 11 are dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

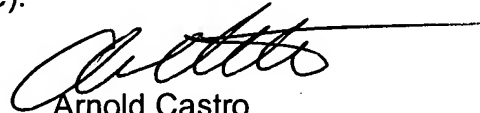
7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US 2003/0104900 A1 is a similar device by having one common inventor and same assignee. Other prior art cited are starter generator arrangements.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Arnold Castro whose telephone number is (703) 305-0039 and at (703) 272-4839 after 11/22/2004. The examiner can normally be reached on 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yuen Henry can be reached on (703) 308-1946. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'Arnold Castro', with a long horizontal line extending to the right.

Arnold Castro
Examiner
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AC